

Claims

- [c1] A one-piece soft spout valve assembly for a no-spill drinking cup comprising:
a diaphragm comprising a body, a spout portion integrally formed in said body, and a valve portion integrally formed in said body within said spout portion, wherein said body comprises an outward surface, an inward surface, and a peripheral edge delineating said outward surface from said inward surface, wherein said spout portion and said valve portion form a cavity within said inward surface and a drinking opening within said outward surface of said spout portion, whereby fluid may pass from said cavity to said drinking opening through said valve portion when said valve portion is forcibly actuated by said spout portion in response to an externally applied force.
- [c2] The one-piece soft spout valve assembly as recited in claim 1 wherein said diaphragm is made from a flexible material.
- [c3] The one-piece soft spout valve assembly as recited in claim 2 wherein the flexible material is silicone or latex.

- [c4] The one-piece soft spout valve assembly as recited in claim 1 further comprising a plurality of web portions axially coupling said valve portion to said spout portion, whereby said valve portion is forcibly actuated by said web portions and said spout portion in response to an externally applied force.
- [c5] The one-piece soft spout valve assembly as recited in claim 1 wherein said valve portion is a duck valve.
- [c6] The one-piece soft spout valve assembly as recited in claim 1 wherein said valve portion is comprised of a pair of opposing flap portions, wherein each flap portion has two outer axial edges, and said pair of flap portions are adjoined along opposite adjacent outer axial edges, whereby said pair of flap portions of said valve portion are normally closed.
- [c7] The one-piece soft spout valve assembly as recited in claim 1 wherein said valve portion is pyramidal.
- [c8] The one-piece soft spout valve assembly as recited in claim 1 wherein said spout portion is elliptical.
- [c9] The one-piece soft spout valve assembly as recited in claim 1 wherein said diaphragm further comprises a vent portion.

- [c10] The one-piece soft spout valve assembly as recited in claim 1 further comprising a groove circumferentially formed in the peripheral edge, whereby said groove may engage a drinking cup or a lid portion.
- [c11] The one-piece soft spout valve assembly as recited in claim 1 further comprising a drinking cup coupled to said diaphragm.
- [c12] The one-piece soft spout valve assembly as recited in claim 1 further comprising a drinking cup and a lid portion coupled to said diaphragm.
- [c13] An integral valve and spout assembly for a no-spill drinking cup comprising:
a body, a spout portion integrally formed in said body, and a valve portion integrally formed in said body within said spout portion, wherein said body comprises an outward surface, an inward surface, and a edge delineating said outward surface from said inward surface, wherein said spout portion outwardly extends from said outward surface forming a cavity within said inward surface and a drinking opening within said outward surface of said spout portion, whereby fluid may pass from said cavity to said drinking opening through said valve portion when said valve portion is forcibly actuated by said spout portion in response to an externally applied force.

- [c14] The integral valve and spout assembly as recited in claim 13 further comprising a plurality of web portions axially coupling said valve portion to said spout portion, whereby said valve portion is forcibly actuated by said web portions and said spout portion in response to an externally applied force.
- [c15] The integral valve and spout assembly as recited in claim 13 wherein said valve portion is comprised of a pair of opposing flap portions, wherein each flap portion has two outer axial edges, and said pair of flap portions are adjoined along opposite adjacent outer axial edges, whereby said pair of flap portions of said valve portion are normally closed.
- [c16] The integral valve and spout assembly as recited in claim 13 wherein said valve portion is pyramidal.
- [c17] The integral valve and spout assembly as recited in claim 13 wherein said spout portion is elliptical.
- [c18] The integral valve and spout assembly as recited in claim 13 wherein said diaphragm further comprises a vent portion.
- [c19] The integral valve and spout assembly as recited in claim 13 further comprising a groove circumferentially formed

in the peripheral edge, whereby said groove may engage a drinking cup or a lid portion.

[c20] The integral valve and spout assembly as recited in claim 13 further comprising a drinking cup or a lid portion coupled to said assembly.

[c21] A no-spill drinking cup assembly comprising:
a diaphragm comprising a body, a vent portion integrally formed in said body, an elliptical spout portion integrally formed in said body, a pyramidal valve portion integrally formed within said spout portion of said body, and a plurality of web portions axially coupling said valve portion to said spout portion,
wherein said valve portion is comprised of a pair of opposing flap portions, wherein each flap portion has two outer axial edges, and said pair of flap portions are adjoined along opposite adjacent outer axial edges,
whereby said pair of flap portions of said valve portion are normally closed,
wherein said body comprises an outward surface, an inward surface, and a peripheral edge delineating said outward surface from said inward surface, and a groove circumferentially formed in the peripheral edge, whereby said groove may engage a drinking cup or a lid portion, and
wherein said spout portion outwardly extends from said

outward surface forming a cavity within said inward surface and a drinking opening within said outward surface of said spout portion, whereby fluid may pass from said cavity to said drinking opening through said valve portion when said valve portion is forcibly actuated by said web portions and said spout portion in response to an externally applied force;

a lid portion coupled to said diaphragm; and

a drinking cup coupled to said lid portion.